



Family Learning Activity: Show Your Colors!

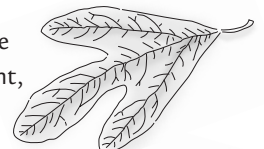
Did you know the brilliant reds, golds, and oranges we see in the fall are in the leaves *all year long*? This fun experiment proves it, and shows you and your family how to reveal the colors that leaves “hide” under their green pigments. Your family can use this experiment to predict what colors the leaves around you will “turn” in the fall!

What You Will Need:

- rubbing alcohol or nail polish remover (acetone)
(handle carefully, read warning labels, and follow directions on the bottle)
- small glass jar
- several green leaves from different trees
- ruler or meter stick
- marker
- pencil
- paper clip
- paper coffee filter

What To Do:

1. Cut a strip of coffee filter about 1.5 inches (4 centimeters) wide and 4 inches (10 centimeters) long.
2. Make a pigment sample by laying a leaf on top of the strip and use a pencil to rub the leaf against the strip until you leave a green spot in the center of the strip (about an inch from the bottom of the strip).
3. Use the paper clip to hang the filter paper from the pencil laid across the lip of the jar. Use the ruler or meter stick to measure where the bottom of the paper hangs in the jar, then use your marker to mark this spot.
4. Take the filter paper out and pour in alcohol* up to your mark—just enough so the bottom of the filter paper will get wet, but won’t touch the green dot. Hang the filter paper in the jar. **We advise that an adult pour the rubbing alcohol or acetone.*
5. Let your experiment sit for 30 minutes. *What do you notice?* (the green pigment has traveled up the paper along with the alcohol or acetone). Where the green pigment stops, you should notice a yellowish or orangish streak continuing beyond. This streak indicates that there is another pigment, or pigments, in the leaf. Each band of color represents a pigment.
6. Repeat the experiment with other leaves, if you’d like. As a family, use this to predict what color the leaves of trees around you will “turn” in the fall. Write your predictions in a nature journal. Build your child’s interest and anticipation as fall approaches!



Did You Know?

You’ve just used a technique called chromatography! Chromatography separates heavier pigments from lighter ones so you can see both the green pigment and any other colors in a leaf. Now you know, first-hand, that leaves don’t turn colors, *they show their colors!*

Green Tip

Plant onions, garlic, marigolds, chrysanthemums, and chives near your veggies to repel garden pests. But many insects are beneficial to your garden. Before trying to get rid of an insect you don't recognize, identify it in a good reference book, or take it to a garden center for identification.